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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,438	08/21/2003	Tony McCormack	920673-94702	7992
23644 7590 01/08/2009 BARNES & THORNBURG LLP P.O. BOX 2786 CHICAGO, IL 60690-2786				
EXAMINER CHEA, PHILIP J				
ART UNIT 2453		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Patent-ch@btlaw.com

Office Action Summary

Application No.

10/645,438

Applicant(s)

MCCORMACK ET AL.

Examiner

PHILIP J. CHEA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to an Amendment filed October 10, 2008. Claims 1-17 are currently pending. Any rejection not set forth below has been overcome by the current Amendment.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Flockhart et al. (US 6,535,601), herein referred to as Flockhart.

As per claims 1,11,13, Flockhart discloses a method of contacts within a contact centre, comprising the steps of:

assigning a received contact a priority and a skillset identifier, whereby the received contact can be prioritized relative to other ones of the said contacts (see column 4, line 62 – column 5, line 5, *describing a received contact (i.e. caller) and priority levels access to tech support by supporting a value tag and a skillset identifier in the form of calls requiring a particular skill, such as technical support of various levels*);

creating a new software object for the received contact (see column 4, line 62 – column 5, line 5, *where the new software object is created for the call once entered into the queue, since the queue is a software data structure implemented by a computer see column 3, lines 49-56*);

determining a queuing position for said new software object relative to at least one other software object representing a contact having a skillset identifier similar to said skillset identifier assigned to said received contact (see column 4, line 62 – column 5, line 5, *where the contacts are placed into separate*

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queues with varying tech support skills see Fig. 1A [121-123, 129], showing nine distinct queues related to distinct skills, for example, all contacts in Skill 1 Queue [121] have the same skillset identifier and column 5, lines 7-18, showing how the contact software objects in the queue have a queuing position relative to other contact software objects, implying that a new contact software objects position will be determined);

adding to said new software object a reference to said at least one other software object (see column 5, lines 7-18, *where the software objects in the queue have a reference to other software objects in the form of queue position, that is the head position has a reference to the next position all the way to the tail in order to determine the value of the calls see column 5, lines 43-46);*

storing in memory a collection of said software objects each containing said reference to at least one other of said software objects (*i.e. the is implemented by a computer, implying that a memory is used to store the queue data structure);*

whereby said stored collection of said software objects provides a prioritized queue for a skillset (see column 5, lines 49-56, *showing a prioritized queue for a particular skillset, e.g. Skill 1 Queue or Skill 2 Queue).*

As per claim 2, Flockhart further discloses that the new software object includes references to two other software objects having said similar skillset identifier, said two other software objects representing the contacts immediately ahead of and behind said contact within a queue, except the case in which the new software object is positioned at the end of said queue (see Fig. 3, *showing a queue with a particular Tech Support Skill and a contact in the 4th position having contacts immediately ahead and behind the contact except when the contact is in the tail position e.g. 6th position).*

As per claim 3, Flockhart further discloses modifying said at least one other software object with a reference to the new software object (*e.g. in Fig. 3, when a new software object is entered into queue at the 7th position, the 6th position software object will have reference to the 7th position software object).*

As per claim 4, Flockhart further discloses that the step of assigning to said received contact said priority and said skillset identifier includes assigning multiple said skillset identifiers, and the step of adding said reference comprises adding separate references to software objects in different queues (see

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Fig. 2, describing how each call is tagged with a priority and Fig. 1A showing how each call is placed into a separate queue based on skillset implying that separate references are added to the software objects in different queues).

As per claim 5, Flockhart further discloses responding to a network request by sending over a network details of those software objects at a head of a queue matching criteria specified in the request (see column 5, lines 46-56).

As per claim 6, Flockhart further discloses that the software objects are created and maintained by a contact manager, and a queuing module carries out said determination of said queuing position according to information associated with the new software object, the queuing module being further capable of adding said reference to said new software object (see Fig. 1A, showing call vector [140] for adding contacts to the queue and Fig. 2 showing how the calls enter the queue in order of arrival so they are positioned in order of arrival and the reference is added because the call values are identified from the head back to the end of the queue).

As per claim 7, Flockhart further discloses that the contact manager has a memory space in which said software objects are stored (see column 4, lines 17-22, describing the call vector program assigning calls to queues implying that the calls are software objects being placed into queues since the queues are a software data structure), and the queuing module has a memory space in which said software objects are updated (see column 4, line 62 – column 5, line 5), and said memory spaces either form part of a common space (see column 3, lines 49-57).

As per claims 8, 12, 14, Flockhart discloses a method of distributing contacts across a network of contact centres, wherein each contact is represented by a software object maintained at one of said contact centres, each software object containing references to one or more other of said software objects maintained at the same contact centre to provide a queue of software objects at each said contact centre (see Fig. 1A, showing a contact centre with software objects (i.e. calls in queues) and Fig. 3 showing each software object having references to one or more software objects (i.e. head of queue having reference to next contact in the queue all the way to the tail), wherein the method comprises:

upon a network resource having the capability of handling said contacts with certain criteria becoming available, requesting from each said contact centre the highest priority queued software object matching said criteria (see column 5, lines 43-56);

receiving information relating to each such highest priority queued software object from said contact centres (see column 5, lines 43-56);

determining which software object represents the contact with the highest priority and/or best match for the available resource (see column 5, lines 43-56); and

issuing the routing instructions to cause said contact to be routed to the resource (see column 6, lines 22-28).

As per claims 9,10, Flockhart discloses wherein the contact centre which maintained the software object representing the selected contact carries out the further step of removing the selected software object from its queue and updating said software objects which contain said references to the selected software object, to thereby update the top of one or more said queues represented at said contact centre by a collection of said software objects (see column 6, lines 22-28, *where the software object is moved from the queue to the call selection consideration pool and see Fig. 5A, where the head of the queue would be moved to the call selection pool implying that there will be a new head*).

As per claim 15, Flockhart discloses a software object embodied on a computer-readable medium, representing a contact at a contact centre, said software object including: a reference to one or more other of said software objects located immediately ahead of or behind said software object in a queue, the software object further comprising an identifier to the contact which the software object represents and a skillset identifier enabling the software object to be identified in a search for software objects representing contact which match given skillset criteria (see Fig. 3, *showing a queue with a particular Tech Support Skill and a contact software object in the 4th position having contacts immediately ahead and behind the contact*).

As per claim 16, Flockhart discloses a virtual queue of contact embodied on a computer-readable medium, wherein: each contact within the queue is represented by a software object including a reference to one or more other said software objects located immediately ahead of or behind said

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software object in the queue, the software object further comprising an identifier to the contact which the software object represents and a skillset identifier enabling the software object to be identified in a search for said software objects representing said contacts which match given skillset criteria, and wherein the order of said contacts within the queue is determinable from the aggregated references between said software objects (see Fig. 3, *showing a queue with a particular Tech Support Skill and a contact software object in the 4th position having contacts immediately ahead and behind the contact and see column 5, lines 43-56, describing an order of contacts in the queue and how they are distributed to available agents that are compatible with the skillset*).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flockhart as applied to claim 6 above, and further in view of Wood et al. (US 2004/0259531), herein referred to as Wood.

As per claim 17, Flockhart shows that the contact manager has a contact manager memory space and the queuing module has a queuing module memory space (see column 4, lines 17-22, *describing the contact manager as software implying a memory space* and column 4, line 62 – column 5, *describing the queuing module program implying a memory space*).

Although the system disclosed by Flockhart shows substantial features of the claimed invention (discussed above), it fails to disclose that each of said software objects is stored in two corresponding copies, a first of said copies being stored in the queuing module memory space and a second of said copies being stored in the contact manager memory space, and wherein a replication service is provided which is configured to ensure that changes to the first of said copies are reflected in corresponding

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changes to the second of said copies, and that changes to the second of said copies are reflected in corresponding changes to the first of said copies.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Flockhart, as evidenced by Wood.

In an analogous art, Wood discloses routing messages and the need to minimize a single point of failure by replicating queues throughout a node (see paragraph 193). At the time of the invention, a person having ordinary skill in the art would have recognized the advantage of a replication service for the software object to ensure that changes to either a first or second copy would be replicated across the memory spaces, in order to provide service in the event of a failure.

Response to Arguments

5. Applicant's arguments filed October 10, 2008 have been fully considered but they are not persuasive.

A) Applicant contends that the queue data of Flockhart is not disclose adding to said new software object a reference to said at least one other software object.

In considering A), the Examiner respectfully disagrees. The Examiner believes that the data stored in the queue is a software object because it is located in memory of a computer and gets manipulated by the computer hardware. Merely claiming adding to the new software object a reference to said at least one other software object does not necessarily mean that the software object is a container with fields that have links or pointers to other software objects. It appears that the Applicant intends on the software object to be some kind of container that has special locations in the container to reference another object. However, it is not clearly claimed that way. The Examiner believes that when the software object is placed in the queue the addition of the reference to another software object comes from the fact that the queue has a reference to the next location in the queue, thereby adding to the software object a reference to at least one other software object. The queue creates references to other software object because it allows the

computer to start at the head position and work back to the end checking the contents of the queue (see column 5, lines 43-46).

B) Applicant contends that Wood does not disclose a contact manager memory space and a queuing module memory space and not suggestion that a replication service is provided.

In considering B), the Examiner respectfully disagrees. In paragraph 193, Wood discloses the need replicate queues to minimize the possibility of a single point of failure. In considering the contact manager memory space and a queuing module memory space, Flockhart teaches these limitations because the contact manager and queuing module are performed on a computer, which implies a computer memory space to store this software.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHILIP J. CHEA whose telephone number is (571)272-3951. The examiner can normally be reached on M-F 6:30-4:00 (1st Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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